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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,789	07/14/2003	Kazuto Hirokawa	2003-0960A	4090

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EXAMINER

SHAKERI, HADI

ART UNIT PAPER NUMBER

3723

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,789	HIROKAWA ET AL.	
	Examiner	Art Unit	
	Hadi Shakeri	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,21,23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,21,23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

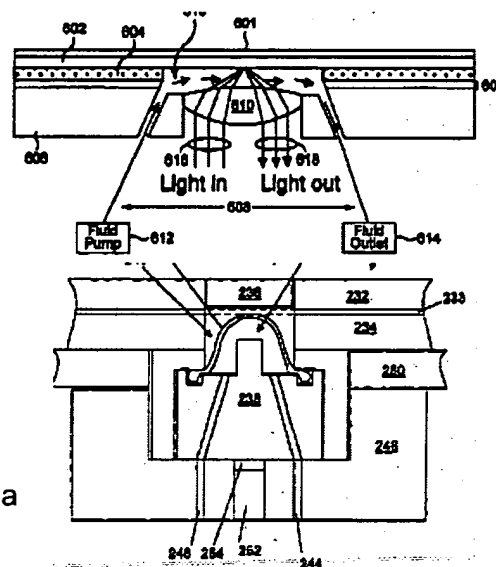
DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, and 3-8 are rejected under 35 U.S.C. 103(a) as obvious over either Lehman et al. (US Pub '139) or Lehman et al. (6,707,540) in view of Kimba et al. (US Pub. 2001/0005265).

Either Lehman et al. (US Pub '139) or Lehman et al. (6,707,540) discloses all of the limitations of claim 1, i.e., a substrate polishing apparatus comprising a polishing table against which a substrate is pressed, a light-emitting and light-receiving device to emit measurement light from said polishing table to said substrate and to receive reflected light from said substrate for measuring a film on said substrate, a fluid supply passage for supplying a liquid for measurement to a fluid chamber provided at a light-emitting and light-receiving position of said polishing table, said measurement light and said reflected light passing through said fluid for measurement, and fluid supply control device for controlling supply of said fluid for measurement to said liquid chamber and wherein the flow rate of the fluid supply is controlled by controller, Lehman et al. (US Pub '139) discloses as indicated in paragraphs 13 and 168 the sensors are based on angular positioning of the pad relative to the substrate, and Lehman et al. (6,707,540) discloses that it may include a sensor arranged to determine when the sample is near the self clearing objective (14:24-30), except for disclosing liquid column parallel to the first

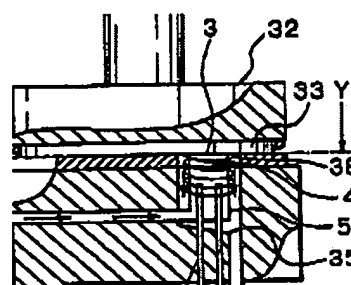


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direction enclosing the measurement and the reflected light. Firstly, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of either Lehman et al. (US Pub '139) or (6,707,540) with angular sensors as a common and known sensors used in the art to accurately synchronize the operation of the pump.

Kimba et al. teaches measurement methods in which the measurement and the reflected light are enclosed within a fluid column defining a chamber in contact with the substrate.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the modified invention of prior art with the arrangement as taught by Kimba et al. for highly accurate means of measurement of a film thickness in a polishing process.



Regarding claims 3-8, prior art meets the limitations, it is noted that in an apparatus claim, the intended use and/or functional language not resulting in a structural difference are not accorded patentable weight, since the apparatus as disclosed is capable of performing the functions, i.e., with respect to the above claims, prior art discloses control device for controlling the supply and discharge of fluid (paragraph 128) (US Patents '540, 14:10-15), as to how, or when the control activates and/or deactivates the supply and/or discharge does not further limit the apparatus, since the apparatus is capable of performing the functions, and meets the elements as recited, i.e., supply control device (claims 1-4); discharge control device, (pumps) claims 5-8.

3. Claims 1, and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimba in view of Lehman et al. '139.

Kimba et al. meets all of the limitations of the above claims as described above, and in the previous Office Action, except for disclosing a rotational angle sensor. It would have been

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obvious to one of ordinary skill in the art, at the time the invention was made, to modify the invention of Kimba et al. with angular sensors as taught by Lehman et al. (US Pub '139) to accurately synchronize the operation of the pump.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 3-8 are rejected under the judicially created doctrine of double patenting over claims 1-10 of US Patent 6,758,723, claims 6-16 of US Patent 6,785,010 and claims 1-8 of US Patent 6,942,543 in view of prior art cited above. The subject matter claimed in the instant application is anticipated by the above claims of the US Patents, except for modifications considered obvious in view of prior art cited above.

Allowable Subject Matter

6. Claims 9 and 21, 23, and 24 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: a fluid supply passage including a passage for a high flow rate and a passage for a low flow rate in addition to the other limitations as recited in claims 9 and 21, places these claims in condition for allowance.

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Response to Arguments

8. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail, III can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Hadi Shakeri', with a long horizontal flourish extending to the right.

Hadi Shakeri
Primary Examiner
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hs
December 16, 2005